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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

1012  
FERNALD  
LOC #2518  
SEP 25 11 10 AM '97

SEP 24 1997

FILE 6446.6  
REPLY TO THE ATTENTION OF:

Mr. Johnny W. Reising  
United States Department of Energy  
Feed Materials Production Center  
P.O. Box 398705  
Cincinnati, Ohio 45239-8705

SRF-5J

RE: Extraction Well 22 PSP

Dear Mr. Reising:

The United States Environmental Protection Agency (U.S. EPA) has completed its review of the United States Department of Energy's (U.S. DOE) Project Specific Plan (PSP) for the installation of extraction well 22.

This PSP addresses the installation of extraction well 22 to supply production water for the On-Site Disposal Facility construction activities.

Attached are U.S. EPA's comments on the PSP. Please contact me at (312) 886-0992 if you have any questions regarding this matter.

Sincerely,

James A. Saric  
Remedial Project Manager  
Federal Facilities Section  
SFD Remedial Response Branch #2

Enclosure

cc: Tom Schneider, OEPA-SWDO  
Bill Murphie, U.S. DOE-HDQ  
John Bradburne, FERMCO  
Terry Hagen, FERMCO  
Tom Walsh, FERMCO

TECHNICAL REVIEW COMMENTS ON  
"PROJECT SPECIFIC PLAN FOR THE INSTALLATION OF  
EXTRACTION WELL 22"  
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

GENERAL COMMENT

Commenting Organization: U.S. EPA                      Commentor: Saric  
Section #: 3                      Page #: Not Applicable (NA)                      Line #: NA  
General Comment #: 1  
Comment: The "Project Specific Plan for the Installation of Extraction Well 22" (PSP) discusses procedures for well development. However, the PSP does not include information on the pump capacity or the procedures for discharging the development water and the water generated during the pumping test period. The PSP should be revised to present this information.

SPECIFIC COMMENTS

Commenting Organization: U.S. EPA                      Commentor: Saric  
Section #: 3.2                      Page #: 4                      Lines #: 6 through 12  
Specific Comment #: 1  
Comment: The PSP states that the well screen will be placed such that it is submerged during the remediation to prevent iron fouling. Prevention of iron fouling may be difficult to achieve if the native aquifer material will be allowed to collapse around the screen. Native aquifer material contains fines that will tend to blind the screen. Additionally, iron bacteria present in the aquifer will contribute to screen blinding and fouling. Screen blinding and fouling will increase the head loss through the screen, thereby lowering the operating liquid level inside the well further below the top of the screen and exposing the screen on the inside of the well. The Department of Energy (DOE) should consider using an alternative screen material that is resistant to iron bacteria accumulation and should select a filter pack material to minimize screen blinding by fines. The PSP should be revised accordingly.

Commenting Organization: U.S. EPA                      Commentor: Saric  
Section #: 3.3.3                      Page #: 5                      Line #: Item 2  
Specific Comment #: 2  
Comment: The PSP states that the pumping test will be conducted by pumping the well for 2 hours at a rate of one-third of the design capacity. However, the PSP does not state the design capacity of the well. The PSP should be revised to clearly state the design capacity of this well.

Commenting Organization: U.S. EPA                      Commentor: Saric  
Section #: 3.3.3                      Page #: 6                      Line #: Item 4  
Specific Comment #: 3  
Comment: The PSP states that the pumping rate will be increased to two-thirds of the pump design capacity but does not specify the pump design capacity. The PSP should be revised to clearly state the pump design capacity.

Commenting Organization: U.S. EPA                      Commentor: Saric  
Section #: 3.3.3                      Page #: 6                      Line #: Item 5  
Specific Comment #: 4  
Comment: The PSP states that the pumping rate will be increased to the design capacity of the pump. However, the PSP does not specify the design capacity of the pump. Additionally, the reference to "the measurements in 4 and 5 above" should be changed to read "the measurements in 2 and 3 above."

Commenting Organization: U.S. EPA                      Commentor: Saric  
Section #: 3.3.3                      Page #: 6                      Line #: Item 7  
Specific Comment #: 5  
Comment: The PSP states that water level measurements will be taken every 30 seconds during the well recovery period. It is not clear what equipment will be used to obtain these water level measurements. The text should discuss the type of equipment that will be used to measure the water level every 30 seconds.

Commenting Organization: U.S. EPA                      Commentor: Saric  
Section #: 5                      Page #: 8                      Line #: NA  
Specific Comment #: 6  
Comment: The PSP states that the discharged pumping water will be sent to the South Plume Force Main; however, no discharge piping, valves, flow meters, and so forth are discussed in the text or shown in the figures. The text should be revised to discuss and an additional figure should be included to show the discharge piping and required controls to be used for the pumping test.